

CLAIMS:

1. For use with a telephone installation within a building, the telephone installation having a line and external connections between the line and a central office of a telephone service provider, a system for connecting to the telephone installation so as to allow more voice channels to be carried over the line without requiring modification or extension of the telephone installation, the system comprising at least two modules for coupling to the telephone line, wherein said modules are operative for:
- (i) converting between at least one standard analog telephone signal and at least one time-domain multiplexed voice channel; and
- (ii) interfacing with standard analog telephone equipment and signals therefrom.
2. The system as in claim 1, wherein the line is operative for carrying at least first and second bands, said first band being operative for carrying standard analog telephone signals, the system furthermore comprising at least one passive filter for separating the first band from the second band.
3. The system as in claim 1, wherein the line is a pre-existing line
4. The system as in claim 1, wherein the line is characterized by a bus topology.
5. The system as in claim 1, wherein the line is characterized by a point-to-point topology.
6. The system as in claim 1, furthermore comprising at least one outlet for coupling to at least two of said modules.

7. The system as in claim 6, wherein at least one of said modules is fully contained within said at least one outlet.

8. The system as in claim 6, wherein at least one of said modules is partially contained within said at least one outlet.

5 9. The system as in claim 6, wherein at least one of said modules is external to said at least one outlet.

10 10. A kit for upgrading a pre-existing telephone installation having a line within a building so as to allow more voice channels to be carried over the line without requiring modification or extension of the telephone installation, the kit comprising:

(i) at least one outlet, said outlet having a connection for coupling to the line; and

(ii) a module operative for:

15 a) converting between at least one standard analog telephone signal and at least one time-domain multiplexed voice channel; and

b) interfacing with standard analog telephone equipment and signals therefrom.

11. The kit as in claim 10, wherein said module is further 20 operative to data handling.

12. The kit as in claim 10, wherein said module is further operative to protocol converting.

13. The kit as in claim 10, wherein said module is fully contained within said outlet.

14. The kit as in claim 10, wherein said module is partially contained within said outlet.

15. The kit as in claim 10, wherein said module is external to said outlet.

5 16. The kit as in claim 10, further comprising a telephone-line modem.

17. The kit as in claim 10, wherein said outlet is a telephone outlet.

10 18. The kit as in claim 10, for use with a line operative for carrying a plurality of bands, a band of which is operative to carrying standard analog telephone signals, the kit furthermore comprising at least one passive filter for separating the band operative to carrying standard analog telephone signals.

15 19. A method for upgrading a pre-existing telephone installation having a line within a building, so as to allow more voice channels to be carried over the line without requiring modification or extension of the telephone installation, the method comprising the steps of:

- (i) providing a telephone line modem;
- (ii) providing a subscriber-line interface;
- 20 (iii) providing a drop-and-insert multiplexer for interfacing between the voice channels and said subscriber-line interface;
- (iv) providing an outlet; and
- (v) equipping said outlet with said telephone-line modem, said subscriber-line interface, and said drop-and-insert multiplexer.

20. The method as in claim 19, wherein the line is operative for carrying a standard analog telephone service, the method furthermore comprising the steps of:

- 5 (vi) providing a passive high-pass filter and a passive low-pass filter;
- (vii) connecting said filters to isolate the standard analog telephone service from the plurality of voice channels; and
- (viii) providing a connector to connect a standard telephone set to the standard analog telephone service.

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